

What is claimed is:

1. A robot system comprising:
at least two segments;
joints for interconnecting the segments;
drive units for actuating the segments;
a controller for controlling the drive units; and
a bladder which is provided in at least one of the segments,
the joints, the drive units, and the controller and which is
filled with a fluid, the fluid being of higher specific gravity
than the outside environment.
2. The robot system according to claim 1, wherein a center
of buoyancy differs from a center of gravity.
3. The robot system according to claim 1, wherein the
robot system has a specific gravity of 1 or more relative to
the outside environment.
4. The robot system according to claim 1, wherein the
product of gravitational force and a distance between a ground
point where the system comes into contact with the ground and
the center of gravity is smaller than the product of buoyant
force and a distance between the ground point and the center
of buoyancy.

5. The robot system according to claim 1, wherein the bladder is formed in the segments.

6. The robot system according to claim 1, further comprising a regulator for regulating the amount of fluid filled in the bladder.

7. The robot system according to claim 1, further comprising a valve for filling the bladder with a fluid or releasing the fluid from the bladder.

8. The robot system according to claim 7, wherein the valve is a check valve for preventing outflow of the fluid from the inside of the bladder to the outside.

9. The robot system according to claim 1, wherein one of the segments constitutes a leg section, and buoyant force is greater than gravitational force so that the leg section can contact a ceiling.

10. The robot system according to claim 1, wherein one of the segments constitutes a leg section, and the leg section comes into contact with a water surface.

11. The robot system according to claim 1, wherein the

bladder is formed from a flexible material.

12. The robot system according to claim 1, wherein the fluid pressure exerted on the inside of the bladder is variable.

13. The robot system according to claim 1, further comprising a transceiver for transmitting information to the outside and receiving information from the outside, and the robot system is constructed so as to enable remote control of the drive units.

14. The robot system according to claim 1, further comprising a power supply unit for supplying energy for driving the drive units.

15. The robot system according to claim 1, further comprising sensors for acquiring information about the inside and outside of the robot system.

16. A robot system comprising:

at least two bladders filled with a fluid being of lower specific gravity than the outside environment, wherein the total weight of the system does not assume a negative value.

17. The robot system according to claim 16, further

comprising:

- a joint which links the bladders together;
- a drive unit for driving the joint; and
- a controller for controlling the drive unit.

18. The robot system according to claim 16, wherein a center of buoyancy differs from a center of gravity.

19. The robot system according to claim 16, wherein the robot system has a specific gravity of 1 or more relative to the outside environment.

20. The robot system according to claim 16, wherein the product of gravitational force and a distance between a ground point where the system comes into contact with the ground and the center of gravity is smaller than the product of buoyant force and a distance between the ground point and the center of buoyancy.

21. The robot system according to claim 16, wherein the bladder is formed in the segments.

22. The robot system according to claim 16, further comprising a regulator for regulating the amount of fluid filled in the bladder.

23. The robot system according to claim 16, further comprising a valve for filling the bladder with a fluid or releasing the fluid from the bladder.

24. The robot system according to claim 22, wherein the valve is a check valve for preventing outflow of the fluid from the inside of the bladder to the outside.

25. The robot system according to claim 16, wherein one of the segments constitutes a leg section, and buoyant force is greater than gravitational force so that the leg section can contact a ceiling.

26. The robot system according to claim 16, wherein one of the segments constitutes a leg section, and the leg section comes into contact with a water surface.

27. The robot system according to claim 16, wherein the bladder is formed from a flexible material.

28. The robot system according to claim 16, wherein the fluid pressure exerted on the inside of the bladder is variable.

29. The robot system according to claim 17, further

comprising a transceiver for transmitting information to the outside and receiving information from the outside, and the robot system is constructed so as to enable remote control of the drive units.

30. The robot system according to claim 17, further comprising a power supply unit for supplying energy for driving the drive units.

31. The robot system according to claim 17, further comprising sensors for acquiring information about the inside and outside of the robot system.